Erythrocytosis in Subcutaneous Testosterone Replacement Therapy T Williamson, J Trussler, A McCullough

# Jay- Half of men on Shots get elevated hemaglobin levels, but only 6% of pellets, and then they need to be on 8 pellets of 200 mg

## Introduction

Intramuscular (IM) testosterone replacement therapy (TRT) is commonly administered to treat symptomatic male hypogonadism and can result in improved libido, muscle strength, and bone density. However, as many as 40-66% of men receiving IM testosterone replacement therapy may develop erythrocytosis (hematocrit  $\geq$ 53%), which can result in an increased risk of vascular complications including venous thromboembolic disease. In transgender men, subcutaneous (SC) injections of testosterone have been used with improvement in patient satisfaction while maintaining a similar testosterone exposure to IM injections. Additionally, SC testosterone has been shown to be more tolerable, with less pain during injection and increased potential for selfadministration.

### Objective

To evaluate the rate of erythrocytosis observed in cisgender male patients undergoing SC injection of testosterone cypionate in comparison to published rates in the literature with IM testosterone cypionate.

### Methods

A retrospective review of cisgender male patients receiving SC testosterone replacement therapy between January 2021 and June 2021 was conducted. Patient charts were reviewed for testosterone dose, baseline hematocrit, baseline testosterone level, sex hormone binding globulin level prior to starting therapy, and the most recent hematocrit and testosterone levels. The rate of erythrocytosis was determined as well as the change in hematocrit from baseline.

### Results

94 men were included in the cohort. 32% of men developed new-onset erythrocytosis while receiving SC testosterone cypionate. The average weekly dose of testosterone was similar between those receiving weekly and biweekly injections (100.76mg vs 111.2mg, p=0.27).

#### Conclusions

The SC administration of testosterone cypionate in men with symptomatic hypogonadism appears to result in a reduced rate of erythrocytosis compared with rates published in the literature for IM injection therapy. This may aid to decrease the risk of erythrocytosis and associated complications. Further study is warranted to confirm these findings in a prospective cohort.